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SESSION V OTHER ASPECTS OF CHANGING PROVIDER BEHAVIOUR

Introduction

Michael G Goldstein

The AHCPR guideline is going to be a wonderful tool for setting standards for smoking cessation intervention but, as you all know, guidelines are not enough. They are a necessary, but not entirely sufficient, tool to help to change provider behaviour. We are fortunate to have three distinguished panel members who have experience not only with provider education and training, but also changing provider behaviour in an organisational framework. We can learn a lot from their ideas about what we need to make the guidelines work best and how we can facilitate provider change so that the goals of the AHCPR guideline can be met.

Our first presenter is Dr Judith Ockene. She is a professor of medicine at the University of Massachusetts Medical School [in Amherst]. She is also a director of the Division of Preventive and Behavioral Medicine. Many of you know Dr Ockene from her seminal work in training primary-care providers to deliver smoking cessation interventions; she made a major contribution to the original National Cancer Institute manual that was developed by Tom Glenn and Marc Manley. She has had experience training not only primary-care providers, but also medical students and residents. We are pleased to have her views on the impact of provider training as a mode of changing provider behaviour.

We always like to broaden our perspective of how to change physician behaviour and we are fortunate to have Dr John Eisenberg, to help us do just that. He is chairman of the Department of Medicine, physician-in-chief, and the Anton and Margaret Hughes Professor of Medicine at Georgetown University Medical Center [in Washington, DC]. Dr Eisenberg has previously been president of the Society of General Internal Medicine and directed a general internal medicine programme at the University of Pennsylvania [in Philadelphia]. While he was there, he also obtained an MBA at Wharton. Dr Eisenberg brings a perspective as a general internist and as a leader in academic medicine. He helps us consider alternative strategies, more innovative strategies for changing physician behaviour beyond provider training. Dr Jaén told us earlier about some of the research that he has done on the factors influencing provider behaviour. We need more studies on the effects of different interventions. This should be a priority if we really want to have a guideline implemented.

Another presentation will focus more on how, specifically, we can influence provider behaviour in terms of smoking cessation. Dr Ronald Davis will provide us with his insights. Dr Davis is currently the director of the Senate for Health Promotion and Disease Prevention in the Henry Ford Health System. From 1991 to 1995, he served as chief medical officer in the Michigan Department of Public Health. From 1987 to 1991, Dr Davis was the director of the Centers for Disease Control and Prevention (CDC) Office on Smoking and Health, and we thank him for all of his work there. He helped send the message that providers might play an important role in smoking cessation. He will introduce us to new incentives currently under development, and discuss reports that have been developed to monitor smoking cessation activity. We also can thank Dr Davis for the expected publication of the proceedings of this conference, as he is the editor of *Tobacco Control.*

Changing provider behaviour: provider education and training

Judith K Ockene, Jane Zapka

This conference will not only help us to understand better how to implement the AHCPR smoking cessation guideline, but also how to implement other preventive interventions as well. Healthcare provider education and training, as well as its effect on providers' intervention practices is our principal concern here. We must consider this education within the context of other activities required to make training opportunities succeed in helping providers change their behaviours. As Michael Fiore stated, guidelines are very important for changing providers' practices. They are necessary for helping physicians and other providers to do the right thing, but they are not sufficient in themselves to change providers' practices.

Let us first review the framework of these activities and some data that demonstrate the effect of education and training on provider behaviours and subsequently on the behaviours of their patients (in this case, smokers). The framework includes three major interventions that affect provider practice behaviours (figure). The first is training and education for providers on how to conduct smoking cessation interventions. The second is the use of office-based systems and procedures to remind providers to implement the interventions and provide them with the necessary materials. The third includes organisational policies such as performance measures and covered benefits.

These three interventions appear in the provider education literature, not only for facilitating smoking intervention, but also for encouraging other provider-delivered interventions. They have been demonstrated to be important steps in changing providers' behaviour. We also know that there are other factors that affect what providers will eventually do in their practices, including what they bring with them to those settings, namely pre-set ideas and priorities and the organisational or community norms. These must be attended to if our activities are to have any significant impact. We have to identify some of the challenges to education and training in the healthcare setting of the '90s and beyond. We need to discuss what priority providers' education takes in the context of the other interventions we mentioned.

When we talk about provider education and training, we generally mean continuing medical education (CME) for all healthcare providers. The more traditional avenues of education include the grand-rounds type of presentations, conferences, workshops, seminars, and mini-courses. As we attend to provider education, we have to become much more creative about where and how it can take place. We have to be responsive to the needs of the various settings where we are working.

But we are not talking about continuing education exclusively. We clearly need to attend to the students in medical school, and part of our teaching about the AHCPR smoking cessation guideline has to be directed at them. For example, at the University of Massachusetts Medical School, we have a four-hour component in the first month of the school term that teaches students about the importance of smoking intervention and the different skills that they can use to help their patients to make changes.[1] While they may not use all of these skills in later practice, it is certainly important for the students to be aware of the possible approaches so they can then make their own decisions about which skills they want to use regularly.

With regard to workshops and seminars, we find that it is important for providers to practice interventions, so we use role plays, patient simulators, and discussions. Even in the grand rounds type of presentations or one-hour conferences, the more we can attend to discussions and actual experiential learning, the more likely it is that the physicians, nurses, nutritionists, or other providers will actually develop these skills and go home and use some of them.

The existing data clearly supports the importance of education, yet it also informs us that education alone is not enough. The National Cancer Institute funded five benchmark studies in this area during the mid 1980s; they were all supervised by Dr Tom Glynn. These studies were extremely important in demonstrating what needs to happen if interventions are to effect change in providers' practices and eventually in their patients' behaviours (table 1).

Taking them in alphabetical order, the first of these studies was conducted by researcher Stuart Cohen. It had a four-group design: one group had a regular grand-rounds presentation on smoking; the other three groups had the grand rounds and a reminder to cue the physicians to intervene later. As Dr Cohen informed us, the three groups where reminders were used did significantly better than the group where there was just a grand-rounds presentation.[2]

The next study by Steve Cummings and his colleagues in San Francisco was done in an HMO [health maintenance organisation] setting.[3] There were two conditions, a usual-care condition and a training condition

Division of Preventive and Behavioral Medicine, University of Massachusetts Medical School, 55 Lake Avenue North, Worcester, Massachusetts 01655, USA
J K Ockene
J Zapka

involving a three-hour workshop. There were no differences in the smoking cessation rates in those two conditions. Anecdotally, Dr Cummings discovered that even though he trained the support staff how to put reminders on charts at each of the different sites, reminders were used in only 31% of practices, and even in those practices, they were not widely used.

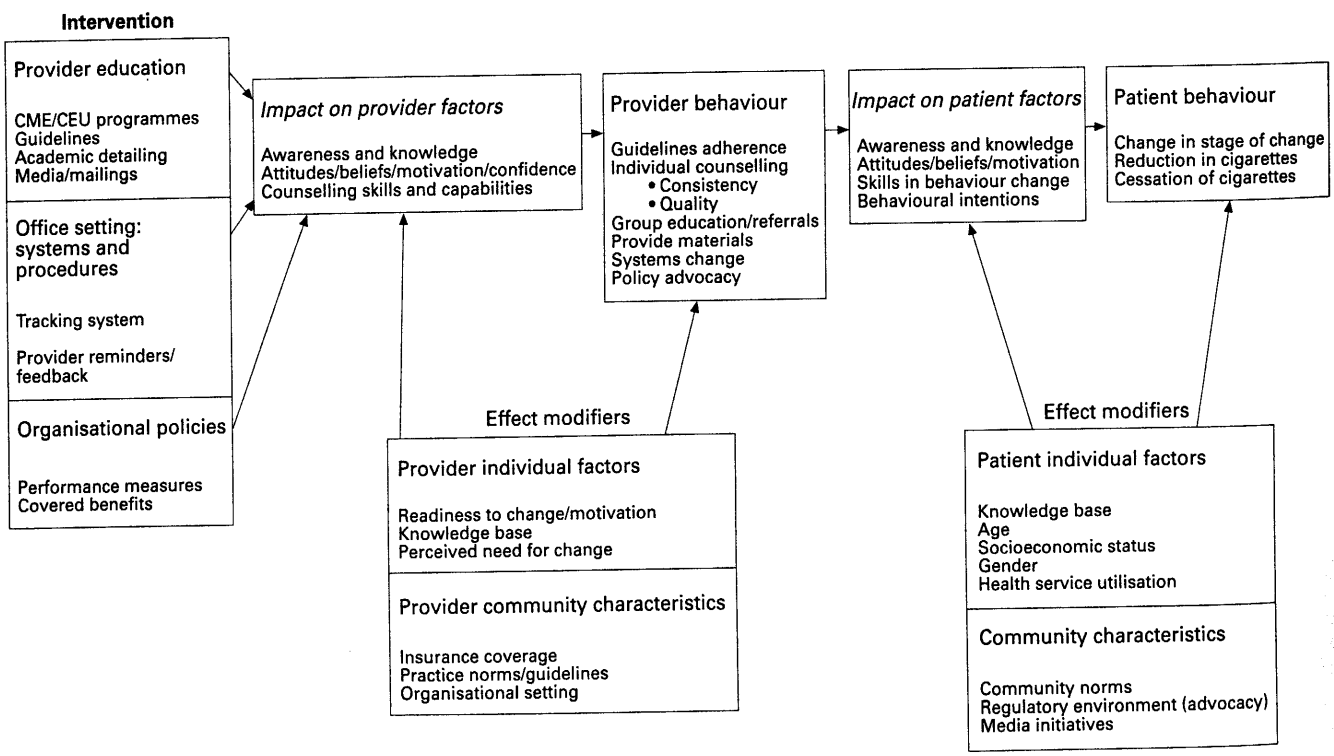
The third study by Tom Kottke, one of the AHCPR task force members, and Leif Solberg took place in medical practices in Minnesota.[4] This study had three conditions: one was usual care; in the second condition, physicians were given patient educational materials; and in the third condition, physicians were given materials and they attended a three-hour workshop. No differences were demonstrated between the three conditions. Kottke and Solberg found that no reminders were used in the clinic settings to prompt physicians to do the interventions, even though reminders were provided by them to office personnel. Research assistants were not available in their programme, so it really was more of an effectiveness study.

The fourth study we did at the University of Massachusetts Medical School.[5,6] We used chart reminders cueing providers in each condition. Every physician was reminded to intervene with the patient. In one condition, we reminded physicians to provide very personalised advice; in the second condition, to do patient-centred counselling; and in the third condition, to do patient-centred counselling and prescribe nicotine-containing gum. (At that time nicotine-containing gum was the only nicotine replacement therapy available.) We found that cueing is very important, because even in the personalised advice group, we saw a significantly higher cessation rate than would generally be seen in a usual-care condition. We also found that the more interventions the physicians did, the greater the cessation rate. In this, our findings mirror those of the AHCPR panel.

The fifth and final study is one by Doug Wilson, Liz Lindsay, and colleagues at McMaster University.[7] Cueing with gum had better outcomes than usual-care practices. However, when physicians were cued and also taught to do patient-centred intervention, their results were the best. Education alone is not enough, therefore, but cueing alone is not as effective as skill building combined with cues for the provider to intervene.

We recently finished another study at the University of Massachusetts Medical School that comes to the same conclusion about interventions for dietary behaviour.[8] It demonstrated that both education and a cueing system are needed to facilitate providers' use of counselling skills. This suggests that the principles which apply to changing providers' smoking intervention behaviours are applicable to other counselling interventions. That study was implemented in a closed-panel HMO. Sites were randomised into a usual-care condition; a training condition, where physicians received three hours of education; and an education with office practice condition, in which providers were taught skills and given materials for education and cueing each time they saw a patient.

We find the same trend here as we did in the smoking intervention arena. Patients in the dietary behaviour study were interviewed with a patient-exit interview (PEI) immediately after they had visited their physician. The PEI measures the number of intervention steps that



Framework of interventions, impact, and outcomes.

Table 1 Physician-delivered smoking intervention. Randomised clinical trials

Investigators	*Design*	*Provider intervention/conditions*	*Results*	*Comments*
Cohen *et al. Ann Int Med* 1989;110:648–52	Randomised by physician with panel of patients 1420 Patients from general medicine clinic of a city-county teaching hospital	(1) *Control*: received 1-hour lecture with 4-step protocol—ask, advise, agree quit date, follow up, (2) *Gum:* education plus charts identified with ℞ sticker for gum, (3) *Reminder*: education plus charts identified with two stickers: • Did you talk about smoking? • The patient agreed to the following quit date, (4) *Gum and reminder:* education plus (2) and (3)	Quit rates at 6 months(%): *Intervention condition (*P<0.05)* 1 2 3 4 Returnees only 1.3 7.7* 7.0* 6.3* All enrollees 0.9 5.0* 4.0* 3.8*	Reminders improve cessation rates over counselling alone
Cummings *et al. Ann Int Med* 1989;110:640–7	HMO population, MDs grouped into 22 randomised units	(1) *Controls*: usual care, (2) *Training*: 3-hour training for MDs plus office staff trained to implement reminder system	Quit rates at 1 year (%): 1 2 > 1-Week abstinence* 7.1 8.0 9-Month abstinence* 1.5 2.6 *Significant difference only for those who reported desire to quit	Only 31% of offices implemented reminder system
Kottke *et al. JAMA* 1989;261: 2101–6	66 MDs randomised 6053 Patients	Doctors Helping Smokers: (1) No assistance, (2) *Materials*: smoking cessation manual for patients, (3) *Workshop*: 6-hour skill building (ask, advise, set quit date, follow up) plus cessation manual	Quit rates at 1 year (%): *Intervention condition (P = ns)* 1 2 3 14.3 12.0 11.8	MDs asked only ½ of their patients to quit smoking, regardless of training received. Intervention did not include clinic system for reminding MD to intervene
Ockene *et al. J Gen Int Med* 1991;6:1–8, Ockene *et al. Arch Int Med* 1988;148: 1039–45	Randomised by patients 1286 Patients of primary-care clinics	(1) Advice only (AO): • MD advice, (2) Brief, patient-centered counselling (CI): • advice plus patient-centered counselling, • self-help booklet, • resource list, • follow-up visit/telephone call within 2 weeks, • letter of encouragement signed by MD, (3) Same as (2) plus free gum (CI+NCG) plus: • visit (3–5 minutes) with assistant for instructions on gum use, 50% Patients randomised to receive maximal follow up consisting of three telephone calls and three follow-up letters	Quit rates at 6 Months (self-report) (%): *Intervention condition (overall effect P<0.025)* 1 2 3 9.1 11.9 17.4 (1-Year maintained cessation was significant between groups)	Follow-up counselling did not independently contribute to cessation, Chart stickers used in each condition
Wilson *et al. JAMA* 1988; 260:1570–4, Lindsay EA, Wilson D. *Smoking and tobacco control monograph No 5*, 1994	Intact practices randomised 1933 Patients	(1) Usual care, (2) Cued only with gum, (3) Cued plus MD training with gum (trained)	Quit rates at 1 year (%): *Intervention condition (*P<0.05)* 1 2 3 3-Month sustained (validated) 4.4 6.1 8.8* Attempts to quit (self-reported) 36.4 60.7 71.9*	Influence of intervention decreases with time. Counselling plus cueing: increased cessation over cueing alone or usual care

HMO = health maintenance organisation; NCG = nicotine-containing gum.

Table 2 Worcester Area Trial for Counseling in Hyperlipidemia (WATCH). Results of general linear model

Condition**	n	Least-square mean (SE) PEI score	
		Unadjusted	Adjusted*
1	92	3.65 (0.28)	4.09 (0.38)
2	115	3.44 (0.25)	4.05 (0.73)
3	118	6.50 (0.25)	6.28 (0.27)†

*R^2 = 0.45, indicating that this proportion of total variability is accounted for by study factors. Adjusted results control for site, MD, and whether or not the PEI was conducted in person or by telephone. The least-square mean for this column is the condition-specific mean adjusted for these other factors.
**Condition 1 = usual care; condition 2 = training alone; condition 3 = training plus office support.
†*F* value for the test that the condition effects are equal = 14.39 (P<0.0001).
PEI = patient-exit interview.
(Source: Ockene *et al. Am J Prev Med* 1996;12:252–8.)

physicians used. We find that training (condition 2) does no better than usual care (condition 1) in increasing the number of interventions physicians perform, unless an office practice system is added (condition 3) that includes cues and materials for providers meant to do the intervention (table 2).

Education and training do increase providers' knowledge and skill; we see that very clearly when we look at pre/post-test analyses. It also increases their confidence. But to be truly effective, continuing medical education must be combined with information about implementation, including office reminders and a tracking system for patients; some reinforcement of the preventive practices, namely feedback and performance measures; and finally, what Larry Green calls "predisposing strategies",[9] such as education, guidelines, or insurance programmes predisposing providers to give the best possible care.

The conclusion is that we need to devise such strategies if we want physicians, nurses, and other clinicians to use their education to strong advantage. However, there are many challenges in the healthcare setting. Even when providers learn what they need to know and are cued to take the major steps of the intervention, there are still barriers that interfere with their performance. Smoking behaviour and cessation intervention are both very complex. There are also competing demands of other interventions in lifestyle factors; providers are being told to educate their patients on smoking, alcohol consumption, diet, and a range of other preventive care issues.

How do we integrate all these services so that providers put them together in a sensible fashion? Providers frequently see patients with multiple risk factors. In addition, they often have to meet the acute care needs of these patients. We need to help providers work with them in an efficient way, because physicians and nurses have limited time to devote to educational opportunities, especially with the demands of today's health-care setting, where every minute and every penny counts. We know that nurse-assisted intervention in collaboration with physicians' does have a significant effect. Our educational agenda therefore must include nurses and other clinicians as we talk about comprehensive interventions for patients.

There is always a limited amount of time providers can give to their continued education. However, when the educational events are supported by the practice or by the HMO, providers will attend them. We had that experience in the closed-panel HMO where we did our physician-assisted lipid-lowering study—the Worcester Area Trial for Counseling in Hyperlipidemia (WATCH) study—funded by the National Heart, Lung, and Blood Institute.[10] There was 100% attendance at the three-hour training programme, with 100 physicians attending. There were four time choices for the training sessions but, more importantly, the HMO administration supported it, signalled that it was important, and allowed the providers time for it.

What happens, though, when that sort of support does not exist and there is not enough time allotted for training? Then we need to be very creative. A good demonstration of a creative endeavour is the service contract we at UMMS undertook; the Massachusetts Department of Public Health funds it with tobacco tax money. It is our mission to train healthcare providers in the state of Massachusetts to do smoking intervention. We train physicians, nurses, nutritionists, and others interested in smoking intervention. We found that we could not just present special conferences for allcomers. Instead, we needed to add education sessions to conferences and meetings that providers were already attending, which meant that training or educational sessions needed to be relatively brief. What we teach these providers must "fit on the head of a pin". We must decide which are the most important aspects to communicate to them and be aware of the barriers, including their limited time.

At the very least, we want to teach providers how important this activity is. One of the principal barriers is that providers often do not recognise how effective interventions can be. Often the first question asked by clinicians is: "Why should I learn this?" We need to present some, but not a lot of data that shows that their interventions can have an effect on their patients. Again, education needs to be done in cooperation with providers' schedules. Academic detailing is ideal in that it puts training in the proper context, allowing providers to change their behaviour in their own time and in their own setting.[11]

What are some of the things that we want to include in our continuing education for providers in our briefest sessions? We need to give providers a broad perspective of what interventions are and how they can be more effective. If providers are willing to attend slightly longer sessions then we can do more extensive skill building, but that really depends on the needs of the setting. Dr Fiore argued that longer counselling sessions may actually be more cost effective for physicians than shorter sessions; that will be important information to consider if it is indeed true.

We also need to teach providers—or perhaps, remind them—of the importance of establishing a cueing system in their practice. Providers need to be prompted to intervene. They cannot simply attend a training and leave thinking, "Okay, I've got all information I need." We at least need to present to providers what the guidelines recommend, which kinds of performance measures may exist in their system, and the benefits and services that insurers are willing to cover. When we do training, we also emphasise the importance of bringing a support staff member to the training session, because that member can go back to the setting and develop a system to support and facilitate intervention in the practice. Alternatively, we need to go into the practice with some kind of technical assistance programme and help providers set up such a system.

So our key research question remains the one Leif Solberg and Tom Kottke asked in their recent article, "How do we implement guidelines?"[12] There is little evidence that anyone has learned to do this well. Still, there are things that we can do to ensure better implementation. We can safely conclude that education and training programmes do increase providers' knowledge, skills, and confidence to intervene successfully with patients; that more intensive interventions bring higher cessation rates, making training programmes an important activity; and that education and training programmes need to be tailored to the individual setting. There is no such thing as a boiler-plate training programme.

Methods that encourage physicians to intervene with their patients who smoke will increase smoking cessation rates. The training of non-physicians and other clinicians is also very important. Providers who work in a system that is supportive of an education training programme in smoking intervention will attend it. And if the programme is properly emphasised, healthcare providers will apply what they learn to their practice. Finally, traditional CME training programmes are most effective when we combine them with enabling, reinforcing, and predisposing strategies, including cues, office protocols, incentives, and of course, guidelines.

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Changing physicians' practices

John M Eisenberg

Before we attempt to change physicians' behaviour, we should understand first why they practise the way they do. (Behavioural scientists tell us the first step in changing behaviour is to understand it.) Doctors behave the way they do for complex reasons, as do all people. But we can enumerate four motivating factors that might explain physicians' current modes of practice; they may provide some background considerations in improving practices.

One important motivating factor for physicians is professionalism, or the sense of commitment to a patient or a higher standard of excellence. A second is social conscience, in which the conscience responds not only to the individual patient, but also to society as a whole. A third is personal satisfaction—which practices physicians get excited about, the kinds of patients they enjoy serving, what they are gratified to do. A fourth is financial incentive, or what brings personal economic gain to the physician. All these factors probably play a role, to different degrees for different doctors, but the most controversial is that of financial incentive.

Finances and physician practice

There are three principal theories on how economics influences doctors' practices. The "profit maximisation model" argues that doctors are essentially like merchants and other business-people. They are simply trying to maximise their income net of practice costs, and will provide the greatest number of profitable services that the market will accept. This assumes that physicians have some discretion in what they will do for their patients. Indeed, there is a certain latitude—sometimes substantial—because there is often ambiguity about what is considered to be appropriate medically. Within this range of what is considered acceptable medical practice, finances will have a significant impact on what doctors decide to do for their patients.

A second model argues that physicians have a certain level of income to which they aspire. The argument behind the "target income hypothesis" is that physicians know what they want to earn, so if their fees are decreased, they will respond by increasing their volume. They will calculate how to reach their target income; they may induce demand for their services, at least the ones for which they are paid, so that they can compensate if fees are decreased. Again, this assumes there is at least some latitude regarding what constitutes appropriate care.

The "patient agency model" is a third and competing model that some economists put forward to explain physician practices. This model asserts that doctors are indifferent to the price that is paid for their services, that what really matters to them is that they serve as their patients' agents. The doctor provides the services the patient would select if the patient had the physician's knowledge, just as a travel agent would for a client. Because the client does not know how to make reservations, the client allows the travel agent to do what the agent knows how to do best. The faith and trust—or agency—that patients give their physicians is an even more special fiduciary relationship. We are our patients' agents. We decide what the patients would choose if they knew as much as we do about health and disease, if they had the same access to and control of the healthcare system.

Whichever economic model explains medical decision making best, allowances are made in making diagnostic and therapeutic choices. If we could help doctors to understand what is appropriate and effective, then perhaps we could help them to be less influenced by financial motivations. While preserving clinical judgment and assuring that clinical decisions consider the values of individual patients, we can reduce the variation in clinical practice. Of course, one of the ways to do this is with guidelines that help re-define the degree of latitude that exists, that temper some of these financial influences on physicians' practices.

Although none of these economic models adequately explains all medical decision making, there is some truth to all three. There are trade-offs that doctors must make in all these models of behaviour. In *Paying physicians*,[1] we assert that there is psychic cost to a doctor for deviating from what he or she knows and believes is appropriate care. Physicians might be willing to do this if they are paid enough, but there is still a cost of conscience for inducing demand for services that may not be appropriate, just as there is for not providing services they know they should be providing. But physicians often do not have a clear or fixed idea of what is appropriate, and latitude remains in their practice.

If we could help doctors define appropriate care, then they probably would bear an increased cost of conscience when they diverge from it. The rivalry between financial incentives and evidence on effectiveness would become stiffer, and doctors' professionalism could more easily dominate clinical decision making. Doctors and nurses know that clinicians are supposed to be their patients' agents. They want to know what their patients would choose in light of evidence about treatments, and would more likely prescribe for patients tests and treatments that are consistent with evidence-based guidelines. Certainly, in the arena of smoking cessation,

Department of Medicine, Institute for Health Care Research & Policy, Georgetown University Medical Center, 3800 Reservoir Road, NW, 5005-PHC, Washington, DC 20007, USA
JM Eisenberg

financial incentives in traditional fee-for-service medicine are powerfully opposed to the doctor spending much time on smoking cessation. Unless appropriate medical practice is effectively defined and communicated, financial incentives (or disincentives, as the case may be) are likely to dominate in this arena.

Three levels of policy

There are three ways in which information and knowledge can influence physicians' practices. One is public policy, made by government. Another one is systems policy, made by systems of care. The last is clinical policy, in place between clinician and patient.

An example of a public policy initiative is the coverage of medical services. If we want to influence the way physicians practise, then we should consider what public policies encourage them to do. Is there evidence about which services enhance public health? The same holds at the system level. Perhaps the formulary needs to be changed in the hospital or in a managed-care plan. Is there enough evidence about the cost effectiveness of drugs to allow selection?

Clinical policy is the third level at which we might intervene. Guidelines are one example of how we might favourably influence the interaction between doctor and patient. Whether we are trying to get physicians to do more of something like smoking cessation counselling, or less of something like using high-technology diagnostic tools—which is what most of the literature talks about because of the problem of healthcare costs—guidelines may help if they are delivered in the right context.

The context of change

The context of change is very important, because there are several different ways of influencing physician practices. They are summarised in a book that I wrote for Health Administration Press a decade ago, *Doctors' decisions and the cost of medical care*.[2] In the mid 1980s, the Association of American Medical Colleges had become very interested in teaching quality assurance and cost containment. They published a guide for medical students and a guide for faculty, with the idea that education would change medical practice.

This faith that education can induce change in physicians' practices assumes that doctors' decisions are based on rational behaviour and that poor decisions are simply the result of inadequate information. Give physicians information that is adequate and they will change their behaviour, the argument goes. This is a reasonable theoretical model, but it does not seem to work well in practice. Physicians often distrust imposed standards and guidelines, in part because they have often had insufficient input in designing those.

It seems fair to argue that education alone does not work. Education does work, though, if we combine it with other methods of encouraging change. Feedback provides another strategy to improve practices. There are several clear messages about feedback. Feedback without comparison to peers or explicit standards is usually not successful. It states: "Here is how you are doing", but physicians rarely learn what they should have done instead, without comparison with their peers or to a standard. This approach is rarely successful. Feedback is best if it is placed in the context of patient care. The educational materials used in the past few years to influence physicians usually contain dense, gray text—which drug company would advertise their products that way?

Personal feedback is very important, especially if it is presented by a respected colleague. The drug companies call such colleagues "opinion leaders" or "educationally influential." These are physicians respected for their clinical skills and leadership. Similarly, academic detailing works best if it is delivered by a peer respected in the field. A classic study was done at the University of Michigan by Giles Bole (subsequently Medical School dean) and Jeffrey Stross.[3] They picked opinion leaders in Michigan's Northern Peninsula. The two brought these physicians to Ann Arbor for a programme, and when they went home, these physicians changed the way in which arthritis was managed in their communities.

Administrative rules might work, too. Some administrative rules have successfully changed practices, but they can also backfire. For example, we instituted a system at the University of Pennsylvania in which residents could not request standing orders for electrocardiograms. Instead, they would have to write orders every day. We thought that we would reduce the number of electrocardiograms ordered. But alas, the residents wrote the orders and resented us for the hassle. They wrote the orders every day because we had not adequately convinced them that they were not necessary.

Getting physicians or other professionals to participate in the process of change is critical to successfully implementing the change itself. Most of the evidence for this assertion is from researchers in organisational development, studying ways that sophisticated organisations get sophisticated people to take part in the process of change; that is one of the key elements in methods of quality improvement. The message has to reflect collaboration. This is particularly true with ambiguous tasks such as clinical practice. Hospital social and professional networks can help to assure that there is goal congruence.

Incentives might also work. Penalties generally do not seem to be effective, although the threat of one does seem to affect practices. Most of the scant literature on the subject investigates the "sentinel effect" rather than the effect of penalties themselves.

A few key lessons emerge from management literature.

- Use clear educational and behavioural objectives.
- Establish your credibility, involving professional societies and using unbiased information. (Of course, national guidelines, like those published by the Agency for Health Care Policy and Research, will provide a substantial amount of credibility).

- Acknowledge controversy when it exists, because that only strengthens credibility.
- Involve physicians actively.
- Use written materials that are graphic and concise; that is the academic detailing message. Do not use gray text. Repeat, repeat, repeat the main message: repetition is one of the best mechanisms of education.
- Combine education with incentives, penalties, and administrative changes, but do not count on much of an impact from any of these alone.
- Finally, reinforce the newly learned behaviour so it is strongly practised from the beginning and not extinguished later.

Physicians can improve, but the factors motivating their practices are too complex for simplistic methods to be effective. Understanding the motives behind medical practice is the first step toward improving it.

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Healthcare report cards and tobacco measures

Ronald M Davis

Some material presented below by Dr Davis became available after the conference was held. This material is provided within square brackets so that it can be readily identified.

"Health plan company" is used in this article in place of the term used more commonly in the United States, "health plan". One definition of "health plan" is "a health maintenance organisation (HMO), preferred provider organisation (PPO), or traditional health insurance plan that covers a set range of health services" (source: <http://www.wnet.org/mhc/Info/Glossary/Glossary.html>).

We cannot force physicians to comply with guidelines, but we can assess their compliance with guidelines through report cards such as the Health Plan Employer Data and Information Set (HEDIS). We can then use the strategies Dr Eisenberg mentioned earlier to improve compliance with the measures contained in them. How, specifically, can we use report cards to promote smoking cessation? I'll assume that the audience knows about as much on this topic as I did a year ago, when I first went to work for a managed-care organisation—meaning, not a lot. Those who do know about this topic: please bear with me as I give this introductory course on healthcare system evaluations, or so-called "report cards." In no way am I an expert on measuring quality of healthcare. But I've learned some things through osmosis in my year at the Henry Ford Health System, from people at our institution who are experts in this area, like Dr Tom Simmer. So I'll be offering a pot-pourri of information on the subject.

The three report cards that I will discuss are HEDIS, FACCT, and AMAP. I will devote most of the discussion to HEDIS because that report card probably has the greatest impact. The second, FACCT, is the report card under development by the Foundation for Accountability. Lastly, the American Medical Accreditation Program (AMAP) is being developed by the American Medical Association; it is not very well known, since it is in a preliminary stage of development. The first two reports cards—HEDIS and FACCT—are for health plan companies, whereas AMAP is a report card for individual physicians.

Center for Health Promotion and Disease Prevention, Henry Ford Health System, One Ford Place, 5C, Detroit, Michigan 48202-3450, USA
R M Davis

HEDIS

The word "employer" appears in HEDIS because its creation was driven primarily by employers—purchasers of healthcare who wanted a way to measure the performance of the health plan companies with which they were contracting. To give a quick history of HEDIS, the whole process began in late 1989 when representatives of health plan companies and employers were organised by The HMO Group to begin to address this issue. The HMO Group is a consortium of non-profit health maintenance organisations (HMOs), mostly "group-model" and "staff-model" HMOs. Their objectives at the time were to define and understand employer needs to document the "value" of the health plan companies, and to develop performance measures to provide data and information in response to those needs.

The first version of HEDIS was completed in September 1991. It evolved into HEDIS 2.0, which was completed in March 1993 and published in November of that year. It was renamed HEDIS 2.5 after some technical modifications were made in 1995. There was then an effort to develop a version of HEDIS that was more appropriate for the Medicaid population, and a "Medicaid HEDIS" was released in February 1996. A draft of HEDIS 3.0 was released in July 1996 for public comment. It merges HEDIS 2.5 and the Medicaid HEDIS, and also adds a Medicare set. The

Table 1 Quality measures in HEDIS 2.5, and the sources of data used for each

Measure	*Administrative data*	*Medical record review*
Preventive services	Yes	Yes
Childhood immunisation	Yes	Yes
Cholesterol screening	Yes	Yes
Mammography screening	Yes	Yes
Pap smears for cervical cancer screening	Yes	Yes
Prenatal care		
Low birthweight	Yes	No
Prenatal care in first trimester	Yes	Yes
Acute and chronic illness		
Asthma inpatient admission rate	Yes	No
Diabetic retinal examination	Yes	Yes
Mental health		
Ambulatory follow up after hospitalisation for major affective disorders	Yes	Yes

HEDIS = Health Plan Employer Data and Information Set.

existing HEDIS is version 2.5 [It has since been displaced by the latest version, HEDIS 3.0, which was finalised in January 1997.] The main areas of performance ("domains") that are assessed in HEDIS 2.5 are quality, access, patient satisfaction, membership and utilisation, finance, and health plan descriptive information.

DATA SOURCES

There are two basic types of data used for HEDIS measures: administrative data and data from medical records ("chart reviews"). Administrative data are used as much as possible and these would include claims data—or "encounter data," as they would be referred to for patients in capitation arrangements—because, obviously, no specific financial claim is being made for them. Membership data and pharmacy data are other types of administrative data. Administrative data are generally less costly to procure. However, there are often quality problems with these data, such as under-reporting (especially if there is significant paperwork involved in filing claims or encounter information), mis-coding by providers, and data entry errors. Medical records are used as a backup. Two advantages of medical chart reviews are that medical records are a source of more detailed information, and that the information usually is readily identifiable. A disadvantage is that medical chart reviews are time-consuming, laborious, and costly.

Many, if not most, of the HEDIS measures involve data collection through a hybrid approach where administrative data are checked first; if no record of what the researcher wants is found, then he or she goes to the medical record. For example, in assessing whether a patient had a mammogram, the researcher examines electronic claims system or encounter records to determine whether a mammogram has been reported or billed to the system. If no record exists, the researcher cannot assume that no mammogram was obtained, but rather goes to the medical record. Sometimes evidence is there for a particular procedure when, for one reason or another, it is not in the administrative record. Clearly, it is in the best interest of a health plan company not to stop at administrative data, but to pursue a hybrid search so that it can uncover every mammogram it performed, every immunisation it administered, and so on. Besides administrative data and medical record review, there are other sources of data, such as birth certificates for birthweight information.

POPULATIONS

Various populations can be considered through HEDIS. HEDIS 2.5 does not represent Medicare and Medicaid, only the commercial members of a health plan company; there is currently a separate HEDIS for Medicaid. HEDIS data should address different insurance products separately—HMOs, preferred provider organisations (PPOs), "point of service" (POS) products, and so on—because different providers are involved in those different insurance products, just as different payment mechanisms are involved. Obviously, those differences can affect HEDIS rates, so it is important to calculate HEDIS rates separately for those different insurance products.

MEASURES

One of the domains I mentioned for HEDIS 2.5 was quality. Table 1 shows the quality measures under HEDIS 2.5, and what sort of data collection is involved for each. There is a heavy emphasis on preventive services in HEDIS. Some of those addressed in HEDIS 2.5 include childhood immunisation, cholesterol screening, mammography screening, and Pap smears for cervical cancer detection. In addition, note that, for most of these quality measures, the data collection uses a hybrid approach, except in the case of two measures (low birthweight and asthma in-patient admission rates) where administrative data comprise the data source.

Our HMO, Health Alliance Plan (HAP), recently compiled its HEDIS rates. In our HEDIS report for 1995, we break down the HEDIS rates for childhood immunisation by vaccines and by year (1994 and 1995), to look at differences over time. We also present data for all vaccines combined for two year olds (that is, the percentage who are fully vaccinated), and compare that figure to the "Healthy People 2000" objective, the composite score for all 18 Michigan HMOs, and the score for the HMOs that are members of The HMO Group. We at HAP also look at performance through HEDIS among different subsets of our providers, considering, for example, immunisation rates among various physician groups that serve our health plan members, including the Detroit Medical Center, the Henry Ford Medical Group, and our independent practice association (IPA) networks. This allows us to identify where our biggest problems arise.

Besides quality, access is another domain. Included here are measures such as the percentage of members with a health plan company visit in the previous three years (which HAP breaks down by year and by age in its 1995 report), the percentage of primary-care physicians accepting new patients

in a particular year, the percentage of health-plan physicians who are board-certified in either primary care or in a specialty, and the physician turnover rate.

Patient satisfaction, or the percentage of members who call themselves "satisfied" with the plan, is another domain. Satisfaction with HAP was 91% in 1994. Membership and utilisation comprise yet another domain in HEDIS 2.5, and one subpart is the percent disenrollment in a particular year. One of the utilisation measures is emergency room visits per thousand health plan members; another is the rate of caesarean sections. There are measures for the frequency of selected procedures, one of which is the number of members aged 45–64, per 1000 members in that age group, who have had coronary artery bypass grafts involving one to four arteries. Finally, the finance domain includes measures such as premium rates over a five-year period, and performance indicators such as total revenue, net worth, net income, debt-to-service ratio, liquidity indicators, and so on.

POPULARITY, BENEFITS, AND CAUTIONS

A summary of HEDIS 2.0 and 2.5 produced by my colleagues at HAP indicates that more than 300 health plan companies are now producing measures according to specifications developed by the National Committee on Quality Assurance (NCQA, the organisation that accredits HMOs and oversees changes in HEDIS). According to Interstudy, 87% of health plan companies are now using HEDIS. These figures indicate widespread use of HEDIS among health plan companies.

HAP, and in particular its quality-management department, believes that HEDIS is a positive impetus for quality improvement in the areas of data collection, medical care, member satisfaction, and access. HAP emphasises that caution should be exercised in comparing rates, among health plan companies and over time. There are differences in the quality of data, and methods of data collection differ, although NCQA is trying to standardise those methods to the extent possible. There are also major differences in the demographics of health plan memberships, with some regarded as "Medicaid health plan companies" versus others having very little Medicaid enrollment.

An additional point stressed by HAP is that one should not expect to see immediate improvement in a HEDIS measure from one year to the next. This point is particularly salient when performance is already reasonably high to begin with and when it is very hard to increase measured performance further, even with intensive quality improvement efforts. Still, many health plan companies take pride in improvements measured by HEDIS, which is all the more reason to make sure that we have a tobacco measure in it and in other report cards.

HEDIS VERSION 3.0

What lies in the future of HEDIS? There was an effort to develop versions of HEDIS specific to Medicare and Medicaid, and the Medicaid version was released in February 1996. The Medicare HEDIS measures have been under development, but rather than release a separate Medicare HEDIS, NCQA folded those measures into HEDIS 3.0. The Medicaid and Medicare measures extended the target audience of HEDIS to public-sector purchasers. New measures are appropriate to children, mothers, and seniors. There are many additional enhancements, as well.

The draft version of HEDIS 3.0 was released in July 1996 for public comment. The intended audience of these measures are employers, purchasers, consumers, and health plan companies. The stated purpose of HEDIS 3.0 is to allow discrimination among health plan companies to stimulate quality improvement and information systems improvement. This effort was led by a broadly constituted Committee on Performance Measurement (CPM), with assistance from NCQA staff and expert consultants at the Rand Corporation, Harvard University, the Centers for Disease Control and Prevention (CDC), and the Agency for Health Care Policy and Research (AHCPR), and the process involved hundreds of organisations. The CPM consisted of 24 individuals, six of whom represented health plan companies. I am told that one of the reasons that the Foundation for Accountability is developing its own report card (FACCT) is that they feel that HEDIS is controlled by the interests of health plan companies. Yet one might question whether such businesses can realistically control HEDIS when they have only a quarter of the members on the CPM.

HEDIS measures were selected based on three criteria: relevance to purchasers (public and private) and consumers, scientific validity, and feasibility. CPM provided the direction. The attributes of desired measures were summarised in a "public call" for proposed measures. More than 150 organisations submitted more than 800 proposed measures. There are 75 measures in what is called the "reporting set". These are the new measures that will be reported in 1997 (based on 1996 data) if they are approved by NCQA for inclusion in the final HEDIS 3.0. There is also a "testing set" which includes 30 measures believed by NCQA to require testing and research to answer questions fundamental to the process.

Areas of focus include effectiveness of care (which includes many measures identical to quality measures in HEDIS 2.5), access and availability, satisfaction with the experience of care, cost of care, use of services, and plan descriptive information. There are also two new categories: informed healthcare choices, which include measures such as the proportion of new members knowing how the health plan works, and whether materials in different languages are provided to health plan members; and stability of the health plan companies, with regard to membership, staff, and finances. Data sources include enrollment data, administrative data and clinical/medical record data (discussed above), a health plan member survey, and a physician survey. The

member survey comes into play when we consider the tobacco-use measure (discussed below).

According to the NCQA, HEDIS 3.0 addresses "the major health issues" including smoking, cancer, heart disease, diabetes, asthma, sexually transmitted diseases, care of seniors, behavioural health, and public health concerns such as immunisations and antibiotic resistance. NCQA makes the point that this version is oriented more to outcomes or results. HEDIS 3.0 addresses "the full spectrum of healthcare" (from prevention to early detection to acute and chronic care, including children, adolescents, adults, and seniors), integrates public and private measurement efforts, and includes a process for ongoing evolution.

The public comment period on the draft version of HEDIS 3.0 ended in September 1996, and the HEDIS 3.0 draft document is available from NCQA through a toll-free (freephone) number. [The final version of HEDIS 3.0 was released in January; that document can now be ordered from NCQA.]

TOBACCO-USE MEASURE

There is a proposed tobacco-use measure for the reporting set in HEDIS 3.0. The measure, which seems a bit unwieldy, attempts to gauge:

> "[a]mong Medicaid or commercially enrolled adults aged 21 and older or Medicare risk-enrolled adults aged 65 and older as of December 31 of the reporting year, who were continuously enrolled during the reporting year, who were either current smokers or recent quitters, and who were seen by a plan provider during the reporting year—the percentage who received advice to quit smoking during the reporting year from a plan provider. Members who have had no more than one break in enrollment of up to 45 days during the reporting year should be included in this measure."

[In the final HEDIS 3.0, the age group for the tobacco measure was changed from 21 years and older to 18 years and older.]

Note that "Medicare risk" refers to Medicare beneficiaries enrolled in a capitated health plan that is "at risk" for managing the health of the members for a pre-determined, annual per capita payment from the federal government (based on the average per capita cost of healthcare for Medicare beneficiaries in the same location in fee-for-service arrangements).

The sampling for the tobacco measure is explained as follows: First, adult members who have been continuously enrolled for the reporting year will be identified from membership data. Then three random samples will be taken from that overall sample, including 1524 Medicaid members, 1524 Medicare risk members, and 1524 commercial members. That number (1524) was chosen with the expectation that it will result in a statistically valid estimate. The total sample includes 4572 members, which is not an inconsequential number, especially for small health plan companies that do not have the large operating budget (and the data analysis operation) that a large business like ours has.

For the commercial population, survey information can be obtained as part of the Annual Member Healthcare Survey that health plan companies are now required to conduct for NCQA accreditation (also referred to as the "Member Satisfaction Survey"). The methodology for this survey is now standardised by NCQA into a mail format. If a health plan company collects the tobacco information through this survey, it needs to increase the sample size for that survey from 850, which is the current minimum for the annual member healthcare survey, to 1524, which is the requirement for the tobacco-use measure. Alternatively, the company can develop a new survey, which could be carried out either by mail or telephone. [In the final HEDIS 3.0, questions regarding advice to stop smoking were required to be added to the Annual Member Healthcare Survey to achieve standardised reporting.]

For the Medicaid and Medicare risk populations, the health plan companies would have to collect the data through a plan-developed survey (which, again, could be conducted by mail or telephone) because Medicaid and Medicare members are not currently involved in the Annual Member Healthcare Survey. [The final HEDIS 3.0 indicates that the information on advising smokers to quit will be collected for the Medicare risk populations through survey instruments developed as part of the AHCPR Consumer Assessments of Health Plans Study (CAHPS). The CAHPS Medicare surveys became available in March 1997 and are slated for October 1997 release as part of the CAHPS Survey and Reporting Kit.]

Five questions need to be asked to calculate the tobacco measure. The first two questions are ones you've probably seen before, because they are used in population-based surveys to determine smoking prevalence. The five questions are:

1. Have you ever smoked at least 100 cigarettes in your entire life? yes → ever-smoker (→ Q2), no → never-smoker (done)
2. Do you now smoke every day, some days, or not at all? every day/some days → current smoker (→ Q4), not at all → former smoker (→ Q3)
3. How long has it been since you quit smoking cigarettes? quit <1 year → recent quitter (→ Q4), quit ≥1 year → done
4. During the past 12 months, how many times have you visited a doctor or other healthcare professional (do not count overnight hospital visits)? ≥1 visit → "seen in the health plan in the past year", none → done

   [In the final HEDIS 3.0, "healthcare professional" was changed to "health professional in your plan".]
5. On how many of these visits were you advised to quit smoking by a doctor or other health plan provider? ≥1 visit → "received advice to quit", none → "did NOT receive advice to quit"

[In the final HEDIS 3.0, "health plan provider" was changed to "health professional".]

If the respondent answers question 1 "yes", he or she is an ever-smoker and goes on to question 2. If the respondent answers "no", he or she is a never-smoker and is done with these questions. If the answer to question 2 is "every day or some days", the respondent is categorised as a current smoker and goes on to question 4. If the respondent responds "not at all" to question 2, then he or she is an ex-smoker and moves to question 3. In response to question 3, if the respondent quit within the past year, he or she is categorised as a "recent quitter" and proceeds to question 4. If the respondent has been off cigarettes for a year or more, he or she is done with the tobacco questions. With regard to question 4, the respondent who has had at least one visit is considered to have been seen by the health plan company during the past year. If the respondent remembers advice at "one or more visits" in answer to question 5, then he or she is considered to have received medical advice to quit. Obviously, if the answer to question 5 is "none", then that member did not receive advice to quit. That questionnaire allows us to measure the percentage of smokers seen in the past year who have been told by a health plan provider to quit.

Although it is an accomplishment to have a tobacco measure in HEDIS, it is important to realise that this measure may have problems. HAP submitted "public comments" to NCQA on all of its draft measures, and several on the tobacco measure. HAP recommended that it be moved to the "testing set" to evaluate its feasibility, validity, and accuracy. Historically, measures in HEDIS have been field-tested before they've been approved for the "reporting set," but we would be hard-pressed to say that this measure has been satisfactorily field-tested. The sample size may have been too small. As I mentioned earlier, the sample sizes for the three different populations (commercial, Medicaid, and Medicare risk) are each 1524. Assuming a 50% response rate from a mail survey, a 20% smoking prevalence (prevalence will probably be a bit lower in HMO populations than in the general population), and that 70% of smokers have at least one health plan office visit during the past year,[1] the final sample totals 107 people.

So it is questionable how valid the estimate for the tobacco measure will be for a sample of 107 smokers who have seen a health plan provider during the past year. NCQA states elsewhere in the draft HEDIS 3.0 document that "Measures calculated using fewer than 100 members should not be used for comparisons among health plans." [HAP's experience with the tobacco measure in the first year of HEDIS 3.0 (1996 results, collected in 1997) reinforces this problem of sample size. The Member Healthcare Survey, developed in conformity with NCQA specifications, was sent to a randomly selected sample of 1860 commercial members 18 years of age and older. HAP received 743 completed questionnaires (40%). Of those, 124 (16.7%) were smokers or recent quitters who had had at least one office visit with a plan provider in the past year. Incidentally, of the 124, 87 (70%) reported having received advice to quit during at least one of those visits.[2] The overall result at HAP (70%) compares with an aggregate figure of 69% for five HMOs in Michigan (HAP, The Wellness Plan, SelectCare, HealthPlus, and Care Choices) that participated in a joint survey conducted under the auspices of the Michigan Consortium for Quality Improvement in Health Care.[3]]

In addition, HAP pointed out potential problems of response bias (smokers being less likely to respond), especially if the survey is conducted by mail. A telephone survey may reduce bias, but would be very expensive. The potential for response bias is higher because the health plan company is known to the respondents to be the sponsor of the survey, and respondents may fear "deselection" or premium increases for unhealthy behaviours (even if they are assured at the outset of the questionnaire that this will not happen).

HAP also recommended that results for the type of provider seen be limited to primary-care physicians, instead of all providers, among them nurses, nurse practitioners, physician assistants, and others. HAP commented that the measure will place a significant burden on health plan companies (especially small ones) because separate surveys will need to be conducted for commercial, Medicaid, and Medicare risk populations. HAP further noted that the survey period (past 12 months) does not correspond to the reporting year (calendar year). HAP concluded that the use of survey data for the tobacco measure is inconsistent with the NCQA guidelines for data collection, which do not permit the use of unverified patient data. [Concern about the accuracy of smokers' recall of physician advice to quit smoking was heightened by publication in *Tobacco Control* of a study from Australia, which showed that smokers systematically over-reported having received medical advice to quit.[4] An editorial in the same issue of the journal commented on the implications of this study for the tobacco measure in HEDIS 3.0.[5]]

The tobacco measure I have been discussing is proposed for the "reporting set". However, two other tobacco measures have been designated for the "testing set": smoking prevalence and quit rate, which can be determined from the very same five questions used to calculate the measure for the "reporting set". These measures estimate the percentage of adults in the health plan who smoke, and the percentage of adult smokers in the plan who quit smoking in the past year. [These two measures were retained in the "testing set" in the final version of HEDIS 3.0.]

FACCT

The Foundation for Accountability (FACCT), based in Portland, Oregon, is developing another report card for health plan companies. Its brochure describes FACCT as "a consumer

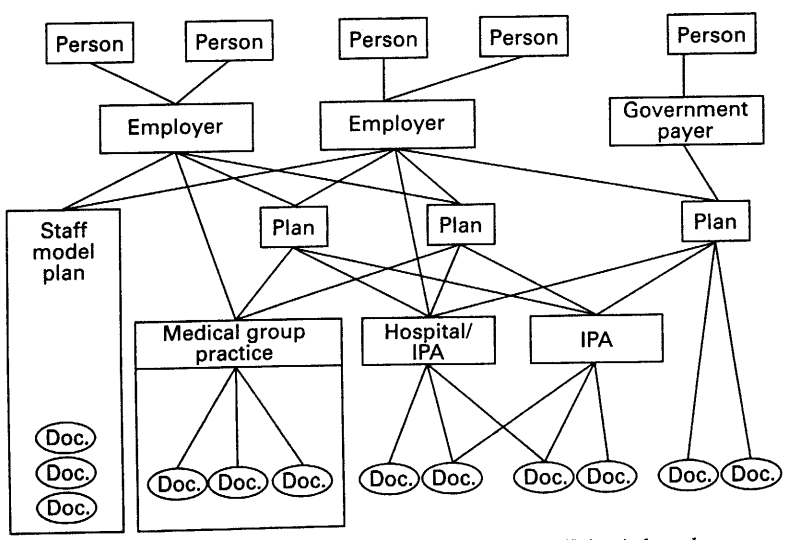
Table 2 Foundation for Accountability (FACCT) measures to assess quality care for people's health risks in a healthcare organisation

Quality measures	*What each measure tells you*	*How each is measured*
Steps to good care		
1. Helping smokers quit	Do the doctors and other care providers offer help to smokers to stop smoking?	Smokers complete a yearly questionnaire
2. Care providers' awareness of members' health habits	Does the healthcare organisation survey its members to learn the extent of their poor health habits?	Check that the healthcare organisation periodically surveys its members/patients about their health habits
Results		
3. Quit smoking	How many smokers quit smoking during the past year?	Smokers complete a yearly questionnaire

and purchaser driven organisation that will endorse, advocate, and promote a common set of patient-oriented measures of healthcare quality."[6] FACCT's plans to develop its own healthcare quality measures reportedly grew out of two concerns: first, its belief that the NCQA Committee on Performance Measurement (CPM) and HEDIS itself are "controlled" by health plan companies; and second, that HEDIS relies too much on process measures (eg, services delivered) rather than outcomes—for example, health status indicators.[7] The FACCT Board consists of 21 members, including six representatives of private purchasers, five representatives of public purchasers, six consumers, and four at-large members (including a representative of a health plan company and two representatives of FACCT (its president and counsel). Only one of the 21 members represents a health plan company.

INITIAL MEASURES

In May 1996, the FACCT Board endorsed the first five measure sets, which covered the following areas: breast cancer, diabetes, major depression, health plan satisfaction, and health risk behaviour. Synopses of these measures are now available from FACCT; they are, in fact, the source of my information. Five more measure sets may be released by the end of 1996. [In October 1996, the Health Care Financing Administration (HCFA) awarded a four-year, $2 million contract to Rand to review and refine three FACCT measures (for breast cancer, diabetes, and depression).[8]]



The complex accountabilities in the American healthcare system. IPA = independent practice association. Source: Dr R Ward, Center for Clinical Effectiveness, Henry Ford Health Sytem (Detroit, Michigan, USA).

The health risk behaviour measure is explained and summarised by FACCT as:

> "Identification, reduction and management of health risks are critical to improving the health of a population. When deaths in the US are attributed to their underlying causes, tobacco use, diet, activity patterns and alcohol use stand out as leading causes of death. This measurement proposal is a modest first step in assessing health system performance in intervening to reduce these risks. It reflects a commitment to encourage a health care system to give significant attention to reducing and managing the health risks of populations. Reducing health risks is achieved through a close partnership with patients and communities. Numerous clinical studies and applied behavior modification efforts have demonstrated that key risk behaviors are amenable to change."

FACCT goes on to explain that its "measurement set includes measures of a health care organisation's performance in reducing the prevalence of negative health behaviors and increasing the prevalence of positive healthcare behaviors. A brief behavioral risk factor survey that can be used to survey the adult population of any type of health care organisation is proposed. Yearly, cross-sectional implementation of this health risk survey is recommended. Additional measures not specified at this time may provide information about the quality and outcomes of efforts to monitor and reduce health risk factors and are under consideration."

This measure set includes two "domains". One domain is called "Steps to good care", which includes two measures: implementation of a health risk survey derived from the CDC Behavioral Risk Factor Survey; and provider advice or support to quit smoking. The second domain is called "Results", and its measure is the "smoking quit rate". Table 2 reproduces a FACCT summary of these three measures.

The target population includes all adults in the population being considered. FACCT collects data through an annual cross-sectional survey of the population. Appropriate settings are a managed-care plan; a large, primary-care group practice; and community-wide operations. Measurement criteria are contained in questions in the health-risk survey, which "have undergone the scrutiny of CDC experts" and which are used by most states in annual population surveys. Questions on the smoking quit rate and support to quit are from an expert working group established by the Center for the Advancement of Health, as part of a project funded by the Robert Wood Johnson Foundation.

The FACCT synopsis notes that the foundation emphasises smoking over other health risks, that alcohol abuse measures will be developed in the short term, and that other measures will be considered for the purpose of balance. In terms of reporting, the synopsis states that the distribution of responses for the measures on smoking quit rate and support to

quit will be reported, but that no reporting stratification is recommended at this time.

The FACCT report card is still in its early stages of development; the degree to which it will be used by health plan companies, purchasers, and consumers is unclear. By comparison, HEDIS has become a managed-care institution. So it is difficult to predict how much of an impact the FACCT measures, including those related to tobacco, will have on HMOs or the public health. But the emphasis on smoking in FACCT's initial set of measures does provide a valuable public statement about the importance of establishing and evaluating smoking cessation services in managed-care organisations and other healthcare settings.

AMAP

HEDIS and FACCT are report cards directed at health plan companies, while the American Medical Accreditation Program (AMAP) is directed at the individual physician. AMAP grew out of physicians' concern that there are many redundant quality measurement tools in place, in development, or being planned, which impose heavy burdens on their individual practices. Figure 1 depicts many of the different lines of accountability in our healthcare system. HEDIS addresses the accountability of health plan companies to employers and government payers. The American Medical Group Association is reportedly developing a quality measurement tool for accountability of medical group practices that contract with health plan companies or directly with employers. AMAP accreditation can address accountability of individual physicians to entities with which physicians are affiliated, including staff-model HMOs, IPAs, medical group practices, and hospitals.

To receive NCQA accreditation, health plan companies are required to conduct reviews of the practices of their affiliated physicians. So physicians are often subjected to multiple reviews and site visits by different health plan companies during the same year. Dr William Jessee, who oversees the development of AMAP at the AMA, reports that each physician in the United States participates in 9.1 health plans on average. Dr Jessee is fond of citing an ophthalmologist in California who participates in 41 health plans and has admitting privileges at 10 hospitals. This practitioner is subject to 51 different credentialing processes, and depending on patient volume, to 51 office site visit reviews in a given year.

AMAP accreditation will be voluntary, phased in, and comprehensive. The idea is that it will be accepted in lieu of institution-specific assessments, which would eliminate many of the redundant and burdensome assessments that physicians now experience. And AMAP will standardise physician profiling, with regard to clinical performance, patient satisfaction, and cost. The major components of AMAP address the physician's credentials, personal qualifications, clinical performance, patient-care results, and the "environment of care".[9]

Credentials take into account physician education and training, licensure and registration, and work experience. Personal qualifications include ethical behaviour, continuing medical education (CME) participation, involvement in peer-review activities, and participation in self-assessment efforts. Clinical performance is designed to address processes of care and guidelines compliance for preventive care, early detection of disease, and appropriateness of services provided. *This allows the physician to be judged on the delivery of preventive care services, among them giving smoking cessation advice and assistance.* Patient-care results measure the effectiveness of services (clinical outcomes), cost, health status, and patient satisfaction. The environment of care refers to the physician's office facilities, office procedures and policies, staffing and staff performance, and the quality of medical records: their completeness, accuracy, and legibility.

AMAP is targeted to individual physicians, of course, but also to managed-care organisations, Medicare and Medicaid, and hospitals and other healthcare organisations. Various organisations—including NCQA, managed-care organisations, and the Joint Commission on Accreditation of Health Care Organisations (JCAHO)—will be asked to give recognition (or "deemed status") to AMAP accreditation.

The development of AMAP will take place in four phases spanning approximately five years. In phase 1, the components related to credentials, personal qualifications (except CME), and environment of care will be developed, all within six months. Within 12 months, CME tracking will be added and self-assessment modules will be expanded. In phase 2, which should be completed within two years, patient satisfaction will be added to phase 1 components. In phase 3, core measures for clinical performance and patient care results will be added, within three years. At this stage, those measures will be used for feedback, not for accreditation decisions. In the final stage, or phase 4, measures for clinical performance and patient care results will be expanded, within five years. These measures will be used in deciding whether to grant practitioners accreditation.

Conclusions

This review leads me to draw several conclusions about report cards in general, as well as their incorporation of specific tobacco measures. As the most widely used report card, HEDIS has appreciable influence in improving the quality of healthcare provided by HMOs. This impact will continue to grow if purchasers and consumers make greater use of HEDIS in choosing health plan companies. The draft version of HEDIS 3.0 offers significant advances over previous versions [and the finalised version improves on them even further]. However, problems in implementation may occur because the number of measures is growing, and many new measures have not been adequately field-tested, including the one for tobacco use.

Meanwhile, the future impact of the FACCT "report card" is difficult to predict. Its

impact will depend on the degree to which employers and consumers use it to make decisions on purchasing and enrollment. AMAP certainly fills a niche, and will likely be successful if physicians "buy in" and if managed-care organisations and existing accreditation bodies (including NCQA and JCAHO) give it "deemed status". However, a proliferation of report cards could impede clinical performance measurement efforts, especially if there is inadequate coordination among them.

Finally, incorporating tobacco measures into HEDIS, FACCT, AMAP, and all other report cards provides a valuable incentive for healthcare providers to implement smoking cessation guidelines. But research is needed to develop and refine existing tobacco measures—and to assess their feasibility, accuracy, and value as an indicator of performance in helping smokers quit.

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6 Foundation for Accountability (FACCT). *A consumer voice on health care quality.* (Brochure.) Portland, Oregon: FACCT, March 1996.
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9 Memorandum from P John Seward, executive vice president of the American Medical Association, to executive directors of State Medical Societies, County Medical Societies, and National Medical Specialty Societies, dated 18 October 1996, re: "Implementation plan: American Medical Accreditation Program (AMAP)".

Open discussion: other aspects of changing provider behaviour

BOB MECKLENBERG: In dentistry, we find that we have quality time with patients; we actually have about 25 minutes interacting with people—not only that, they are generally healthy people. Approximately 52–53% of the population sees a dentist in the United States every year, and they do not have late stage emphysema or cardiovascular problems. Indeed, 75% of the children aged 3 to 17 years are in a dental office at least once a year, so we have quite a bit of access to them. The guideline certainly gives clear evidence that multi-providers are effective. Certainly, non-physician providers are virtually as effective as physician providers. When we look at *Healthy people 2000* objectives, there was one in the tobacco series that focused on professional people: it aimed to have 75% of primary care and oral healthcare providers give advice, assistance, and follow up. Dentistry has been a sleeping giant and is just waking to these things. In the past few years, we have done surveys that indicate about 40% of dental practitioners are not doing interventions, but they know they should and would attend training courses if they were offered. They are looking for science-based, sound, scientific methods.

JUDITH OCKENE: Clearly, we work together in these areas and I think you are absolutely right; all of the comments I made from the learning perspective apply to dentists. In our own state of Massachusetts, our provider education includes dentists across the state.

LINDA LILLINGTON: At the [University of California] School of Nursing [in Los Angeles], we have integrated four hours of course content in our graduate level programme for paediatrics and obstetrics to family nurse practitioners, and oncology to nurse specialists, but the oncology nursing society is working to drive some of the certification questions that nurses answer, in tests for both advanced and basic practice, to make students accountable for knowing about tobacco control issues and prevention.

I also want to comment on the experience that I have had with another guideline—the cancer pain guideline—and the incredible power of the pharmaceutical firms. This is much more than penlights to physicians. When the cancer pain guidelines came out, I was barraged with information from firms. They had teleconferences, videos, monographs, symposiums. They sent me interactive video disks, CD ROMS, chart reminders, assessment tools, everything glossy, everything accessible. It did change the clinical culture. I have not seen anything like that, at least from a nursing perspective, following the smoking cessation guideline. Perhaps other groups are targeted, but the pharmaceutical firms are not targeting nurses in the same kind of way—maybe because the treatments are available over the counter.

STUART COHEN: Is it every variable we need to look at? Should we be focusing on certain things we haven't considered?

JUDITH OCKENE: As we have all said, there is not enough reinforcement, there is not enough buy-in to the importance of smoking cessation, not only on the part of the clinician, whether it be the physician, the dentist, or the nurse, but also buy-in from the healthcare organisation itself and from its policy makers.

Solving "the problem" requires buy-in at several levels, optimally, whether it is smoking or dietary interventions, and we are all coming at those from different perspectives. That is why I think this conference is so very important. While we all pay lip service to smoking cessation, this is the time when we can begin to discuss the buy-in.

RONALD M DAVIS: It seems to me that we do need to consider the various levels of change that our panel members described. Training is not enough. Public policy by itself is not enough. I think if we are talking about widespread dissemination, we are going to have to use as many tools as possible, at as many levels as possible, to get our message out and change behaviour. That is not a simple answer, but it is the right one. There is no single approach that is going to work.

PARTICIPANT: One difference between the AHCPR smoking cessation guideline and some of the other guidelines such as the cancer pain one is that this guideline is preventative in nature. The intervention is really aimed at people who have a risk factor, but do not yet have a problem. If I were to make one change to initiate intervention, it would probably be a structural one. You can imagine interventions in dentists' offices, doctors' offices, or wherever people come into contact with each other, especially in drug stores, where the identifying question gets asked and then the intervention begins. It is starting that cascade that seems to me to be most difficult.

STEVE HADDON: One of the concerns in looking at the HEDIS guideline and some of the other guidelines, was that the point of intervention, at least in terms of assessment, seems to be age 21 or greater. In Utah, the age of initiation [into smoking] is 13. By age 19, which is our legal age of cigarette use, 90% of people who are going to be adult smokers already are. We are missing eight years of use in assessing smoking and evaluating interventions by providers. Even beyond the assessments, what does the panel see as some interventions and some ways to get providers involved with young users? That 13 year old will be a 60 year old lung cancer patient later on.

JUDITH OCKENE: We know from the literature that there is almost no data on what the providers who work with the paediatric or the adolescent population can do to be effective. Clearly, a lot of research is needed in that area. We at the University of Massachusetts Medical School have started to develop components of paediatricians' education, including how to address the younger child who has not initiated smoking, how to address the adolescent who has, and how to address the parents of children who are smoking so they can help the children change. We are talking about this from a family medicine perspective. The ideas are not that different from those for adult populations, or only somewhat different, when we talk about preventing initiation. But there are several groups that have developed some of these guidelines and materials. I know also that the AMA [American Medical Association] is addressing this issue.

RONALD M DAVIS: The guidelines from the Foundation for Accountability (FAACT) may address children. It is an alternative report card for health plan companies that has targeted and is driven by consumers; purchasers and health plan companies are not really involved in it, but it has announced a tobacco measure. FACCT has only released a synopsis of the measure, but it has said that it will use a question recommended by an expert working group convened by the Center for the Advancement of Health. The question addresses whether the patient, a tobacco user or a non-user between the ages of 10 and 21, who made at least one visit to a doctor or other health professional in the reporting year received advice during the visit to stop tobacco use or not to begin using tobacco. Then there are measures for self help, nicotine replacement, or referral to a cessation programme. To the extent that the FAACT report card becomes important, children will be addressed.

DONNA GRANDE: Look at the 34% increase in teen tobacco use among eighth graders [13–14 year olds] in the past five years alone. The US Preventative Services Task Force released a guide in the 1980s; there was an omission for the most part about adolescent behaviour, so I applaud to the AMA for coming out with guidelines for adolescent preventive services. Is there going to be a supplement to the AHCPR smoking cessation guideline addressing the adolescent component?

MICHAEL C FIORE: There was considerable discussion of the panel about whether we should include a preventive component in the AHCPR guideline—in other words, the primary prevention of tobacco use. We decided to send a clear message that evidence suggested the need for smoking cessation interventions in adults, so we focused on that. There was a hope that eventually other guidelines would be produced to address early use and prevention among adolescents. That was not the goal for our guideline. I do not know what AHCPR's plans are. That can come up in discussions with the AHCPR staff, as there is a need to focus on that important problem, too.

TONY TOMMASELLO: I appreciate the comments about using the pharmacy as a point for intervention and training. But pharmacists are isolated practitioners and there is a variety of different written materials that have been produced by the American Pharmaceutical Association, including a continuing education (CE) programme that outlined some guidelines and implementation strategies. There are many competing interests in CE programmes.

PARTICIPANT: How many pharmacists who sell drugs and other health-enhancing items also sell tobacco at the checkout counter?

TONY TOMMASELLO: It depends on the kind of pharmacy that one enters. Most of us have the perception of the pharmacist as the guy behind the counter at the Giant, the Safeway, the big store where they sell a lot of other items.

If we move into the professional pharmacy setting, with mostly medications and over-the-counter items, cigarettes are not sold. So I think the difference is how the pharmacy service is seen—to bring people in and give them low-cost drugs, or to get people into the store to buy other items. I can't give you a good number.

PARTICIPANT: Reaching the isolated professional—whether it be the dentist or physician in private practice or pharmacist—how does one do education, other than through a text that nobody reads?

JOHN M EISENBERG: How do the drug companies do it? They visit, basically. I would love to tell you that the World Wide Web, that the Internet is going to solve all these problems. I don't think that is true. The pharmaceutical industry sends representatives out. Talk to the people at one of the pharmaceutical marketing groups and find out how they do it.

JUDITH OCKENE: Special conferences are not really the answer. Instead, hook into existing meetings that may take place among the practices and ask practitioners: "Can I have 15 or 20 minutes of your time?" Obviously, you have to convince the influential there that smoking cessation is an important effort and you will have to do it in a brief period of time. This is similar to the academic detailing approach.